

SEQUENCE LISTING
1

<110> Visible Genetics Inc.
Shipman, Robert

<120> Method and Kit for the Characterization of
Antibiotic-Resistance Mutations in *Mycobacterium*
tuberculosis

<130> VGEN.P-055-WO

<140>

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<150> 60/111,794

<151> 1998-12-11

<160> 50

<170> PatentIn Ver. 2.1

<210> 1

<211> 20

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<223> rpoB-F amplification primer

<400> 1

tacggtcggc gagctgatcc

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<211> 20

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<223> rpoB-R amplification primer

<400> 2

tacggcggtt cgatgaaccc

20

<210> 3
<211> 20
<212> DNA
<213> **Mycobacterium tuberculosis**

<220>
<223> **rpoB-5s sequencing primer**

<400> 3
tacggtcggc gagctgatcc

20

<210> 4
<211> 20
<212> DNA
<213> **Mycobacterium tuberculosis**

<220>
<223> **rpoB-3s sequencing primer**

<400> 4
tacggcgttt cgatgaaccc

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<210> 5
<211> 480
<212> DNA
<213> **Mycobacterium tuberculosis**

<220>
<223> **rpoB (rifampin resistance)**

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aaaaccagat ccgggtcggc atgtcgcgga tggagcggtt ggtccggggag cggatgacca 120
cccaggacgt ggaggcgatc acaccgcaga cgttgatcaa catccggccg gtggtcgccc 180
cgatcaagga gttcttcggc accagccagc tgagccaatt catggaccag aacaacccgc 240
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agcgtgcggc gctggagggtc cgcgacgtgc acccgtcgca ctacggccgg atgtgccccga 360
tcgaaacccc tgagggggccc aacatcggtc tgatcggtc gctgtcggtg tacgcgcggg 420
tcaaccccggtt cgggttcatc gaaacgcccgt accgcaaggt ggtcgacggc gtggtagcg 480

<210> 6
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<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> katG-F amplification primer

<400> 6

atggggctga tctacgtgaa

20

<210> 7

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> katG-R amplification primer

<400> 7

ggtgttccag ccagcgacgc

20

<210> 8

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> katG-5s sequencing primer

<400> 8

atggggctga tctacgtgaa

20

<210> 9

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> katG-3s sequencing primer

<400> 9

ggtgttccag ccagcgacgc

20

<210> 10

<211> 660

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> katG (isoniazid resistance)

<400> 10

gctcggcgat gagcgttaca gcggtaagcg ggatctggag aaccgcgtgg ccgcggtgca 60
gatggggctg atctacgtga acccgagggg gccgaacggc aaccggacc ccatggccgc 120
ggcggtcgac attcgcgaga cgttcggcg catggccatg aacgacgtcg aaacagcggc 180
gctgatcgtc ggcgtcaca cttdcgtaa gacccatggc gccggcccgg ccgatctgg 240
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cccgacgaaa tggacaaca gtttcctcga gatcctgtac ggctacgagt gggagctgac 420
gaagagccct gctggcgctt ggcaatacac cgccaaggac ggcgccggc ccggcaccat 480
cccgaccccg ttcggcgggc cagggcgctc cccgacgtat ctggccactg acctctcgct 540
gcgggtggat ccgatctatg acggatcac gcgtcgctgg ctggaacacc ccgaggaatt 600
ggccgacgag ttcgccaagg cctggtacaa gctgatccac cgagacatgg gtcccggtgc 660

<210> 11

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> PR-F amplification primer

<400> 11

accactgctt tgccgccacc

20

<210> 12

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> PR-R amplification primer

<400> 12

ccgatgagag cggtgagctg

20

<210> 13
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<213> *Mycobacterium tuberculosis*

<220>
<223> PR-5s sequencing primer

<400> 13
accactgctt tgccgccacc

20

<210> 14
<211> 20
<212> DNA
<213> *Mycobacterium tuberculosis*

<220>
<223> PR-3s sequencing primer

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ccgatgagag cggtagctg

20

<210> 15
<211> 420
<212> DNA
<213> *Mycobacterium tuberculosis*

<220>
<223> oxyR-ahpC intergenic region (PR)

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tcatatcgag aatgcttgcg gcactgctga accactgctt tgccgccacc gggcgaaacg 120
cgcaagccc gcccacggcc ggcttagcacc tcttggcgcc gatgccata aatatggtgt 180
gatatatcac ctttgcttga cagcgacttc acggcacat ggaatgtcgc aaccaaatgc 240
attgtccctt ttgatgtga ggagagtcat gccactgcta accatggcg atcaattccc 300
cgccctaccag ctcaccgctc tcattggcg tgacctgtcc aaggctcgacg ccaaggcagcc 360
cgccgactac ttaccacta tcaccagtga cgaacaccca gcaagtggc ggggggtgtt 420

<210> 16
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<213> Mycobacterium tuberculosis

<220>

<223> fabG-F amplification primer

<400> 16

cctcgctgcc cagaaaggga

20

<210> 17

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-R amplification primer

<400> 17

atccccccggt ttccctccgggt

20

<210> 18

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-5s sequencing primer

<400> 18

cctcgctgcc cagaaaggga

20

<210> 19

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG-3s sequencing primer

<400> 19

atccccccggt ttccctccgggt

20

<210> 20

<211> 360

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> fabG (isoniazid resistance)

<400> 20

agcgcgacat acctgctcgcaattcgtag ggcgtcaata caccgcgcagc cagggcctcg 60
ctgcccagaa aggatccgt catggtcgaa gtgtgctgag tcacaccgac aaacgtcacg 120
agcgtaaccc cagtgcgaaa gttcccgccg gaaatgcag ccacgttacg ctctggaca 180
taccgatttc ggcccgccg cggcgagacg atagggtgtc ggggtgactg ccacagccac 240
tgaaggggcc aaacccccat tcgtatcccg ttcatcctg gttaccggag gaaaccgggg 300
gatcgggctg gcgatcgac agcggctggc tgccgacggc cacaagggtgg ccgtcaccca 360

<210> 21

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> s12-F amplification primer

<400> 21

cggtagatgc caaccatcca

20

<210> 22

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> s12-R amplification primer

<400> 22

gcatcagccc ttctccttct

20

<210> 23

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> s12-5s sequencing primer

<400> 23

cggttagatgc caaccatcca

20

<210> 24

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> s12-3s sequencing primer

<400> 24

gcatcagccc ttctcccttc

20

<210> 25

<211> 420

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> rpsL/s12 (streptomycin resistance)

<400> 25

cggttagatgc caaccatcca gcagctggc cgcaagggtc gtcgggacaa gatcagtaag 60
gtcaagaccg cggctctgaa gggcagcccc cagcgtcgtg gtgtatgcac ccgcgtgtac 120
accaccactc cgaagaagcc gaactcggcg ctccggaagg ttgcccgcgt gaagttgacg 180
agtcaggtcg aggtcacggc gtacattccc ggcgagggcc acaacctgca ggagcactcg 240
atggtgctgg tgcggggcg cgggtgaaag gacctgcctg gtgtgcgtca caagatcatc 300
cgcggttcgc tggatacgca ggggtcaag aaccgcaaac aggacacgcag ccgttacggc 360
gctaagaagg agaagggtcg atgccacgcgca agggggccgc gcccaagcgt ccgttgtca 420

<210> 26

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 16S-F amplification primer

<400> 26
ggtgatctgc cctgacttc g

21

<210> 27
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-R amplification primer

<400> 27
cgtcacccca ccaacaagct g 21

<210> 28
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-5s sequencing primer

<400> 28
ggtgatctgc cctgacttc g 21

<210> 29
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> 16S-3s sequencing primer

<400> 29
cgtcacccca ccaacaagct g 21

<210> 30
<211> 147
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> 16S/rns (streptomycin resistance)

<400> 30

cgtgggtgat ctgccctgca cttcgggata agcctgggaa actgggtcta ataccggata 60
ggaccacggg atgcatgtct tgtggtgaa agcgcttag cggtgtggga tgagcccgcg 120
gcctatcagc ttgttggtgg ggtgacg 147

<210> 31

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-F amplification primer

<400> 31

cggcaagctg gcgcacccttc a

21

<210> 32

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-R amplification primer

<400> 32

agccagcaca ctagcccgac g

21

<210> 33

<211> 21

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> embB-5s sequencing primer

<400> 33

cggcaagctg gcgcacccttc a

21

<210> 34
<211> 21
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> embB-3s sequencing primer

<400> 34
agccagcaca ctagcccgcc g

21

<210> 35
<211> 300
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> embB (ethambutol resistance)

<400> 35
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gatattcggc ttccctgcctt ggcatgtcat cggcgcgaat tcgtcgacg acggctacat 120
cctgggcatg gccccgatcg ccgaccacgc cggctacatg tccaaactatt tccgctggtt 180
cggcagcccg gaggatccct tcggctggta ttacaacctg ctggcgctga tgacccatgt 240
cagcgacgcc agtctgtgga tggcctgcc agacctggcc gccgggctag tgtgctggct 300

<210> 36
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>
<223> pncA-F amplification primer

<400> 36
atgcgggcgt tcatatcgat

20

<210> 37
<211> 20
<212> DNA
<213> Mycobacterium tuberculosis

<220>

<223> pncA-F amplification primer

<400> 37

tcaggagctg caaaccaact

20

<210> 38

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA-5s sequencing primer

<400> 38

atgcggcggt tgatcatcgt

20

<210> 39

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA-3s sequencing primer

<400> 39

tcaggagctg caaaccaact

20

<210> 40

<211> 561

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> pncA (pyrazinamide resistance)

<400> 40

atgcggcggt tgatcatcgt cgacgtgcag aacgacttct gcgagggtgg ctcgctggcg 60
gtaaccggtg ggcgcgcgt ggccgcgcc atcagcgact acctggccga agcggcggac 120
taccatcacg tcgtggcaac caaggacttc cacatcgacc cgggtgacca ctctccggc 180
acaccggact attctcgctc gtggccaccg cattgcgtca gcggtaactcc cggcgccggac 240
ttccatccca gtctggacac gtccggcaatc gaggcggtgt tctacaaggg tgccctacacc 300

ggagcgtaca gcggcttcga aggagtcgac gagaacggca cggcactgct gaattggctg 360
cggcaacgcg cggtcgatga ggtcgatgt gtcggatgt ccaccgatca ttgtgtgcgc 420
cagacggccg aggacgcggt acgcaatggc ttggccacca gggtgctggt ggacctgaca 480
gcgggtgtgt cggccgatac caccgtcgcc gcgctggagg agatgcgcac cgccagcgtc 540
gagtggttt gcagctcctg a 561

<210> 41

<211> 20

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<223> *gyrA-F* amplification primer

<400> 41

cagctacatc gactatgcga

20

<210> 42

<211> 20

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<223> *gyrA-R* amplification primer

<400> 42

gggcttcgggt gtacctcatc

20

<210> 43

<211> 20

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<223> *gyrA-5s* sequencing primer

<400> 43

cagctacatc gactatgcga

20

<210> 44

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> gyrA-3s sequencing primer

<400> 44

gggcttcgggttacccatc

20

<210> 45

<211> 420

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> gyrA (fluoroquinilone/ciprofloxacin resistance)

<400> 45

cgaccggatc gaaccggttt acatcgagca ggagatgcag cgcatcata tcgactatgc 60
gatgagcggt atcgtcgccc ggcgcgtgcc ggagggtgcgc gacgggctca agcccggtca 120
tcgcgggtt ctctatgcaa tggatcgattt cggcttccgc ccggaccgca gccacgcca 180
gtcgccccgg tgggttgcccg agaccatggg caactaccac ccgcacggcg acgcgtcgat 240
ctacgacagc ctgggtcgca tggcccgagcc ctgggtcgctt cgctaccggc tggtggacgg 300
ccagggcaac ttggctcgcc caggcaatga cccaccggcg gcgtatggat acaccgaaggc 360
ccggctgacc ccgttggcgta tggagatgct gaggaaatc gacgaggaga cagtgcattt 420

<210> 46

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-F amplification primer

<400> 46

cgaaattcct tgtcggttaa

20

<210> 47

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-R amplification primer

<400> 47

gtatttcaac aacgactcca

20

<210> 48

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-5s sequencing primer

<400> 48

cgaaattcct tgtcggttaa

20

<210> 49

<211> 20

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S-3s sequencing primer

<400> 49

gtatttcaac aacgactcca

20

<210> 50

<211> 300

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<223> 23S (macrolide/azithromycin resistance)

<400> 50

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taagttccga cctgcacgaa tggcgtaacg acttcccaac tgtctcaacc atagactcgg 120
cgaaattgca ctacgagtaa agatgctcgtaacgctcgagg 180
ccttcactac aacttggtat tgggttcgg tacggtttgt gttaggatagg tgggagactt 240
tgaagcacag acgccagttt gtgtggagtc gttgtgaaa taccactctg atcgtattgg 300